

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/JP2004/003781

International filing date (day/month/year)
19.03.2004

Priority date (day/month/year)
28.04.2003

International Patent Classification (IPC) or both national classification and IPC
H01M8/04, H01M8/24

Applicant
NISSAN MOTOR CO., LTD.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

Box No. II Priority

1. ☒ The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43*bis*.1 and 64.1) is the claimed priority date.
2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/JP2004/003781

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	
	No: Claims	1-18
Inventive step (IS)	Yes: Claims	
	No: Claims	1-18
Industrial applicability (IA)	Yes: Claims	1-18
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V.

1. Reference is made to the following documents:

D1 : WO 01/48846 A (BALLARD POWER SYSTEMS INC; ST.-PIERRE, JEAN;
WILKINSON, DAVID, P) 5 July 2001 (2001-07-05)

2. **Clarity** (Art. 6 PCT)

The application does not meet the requirements of Article 6 PCT, because claims 5-9 are not clear.

- 2.1 The term "a heating device (24, 26, 32, 90)" used in claim 5 resp. "the heating device (24)" used in claims 6-8 is vague and unclear.

Also in the light of the description page 7, lines 20-21, there appears to be a contradiction between the term heating device and its reference signs, referring to a humidifier (24) and pipes (26) and (32) and thus to a different functional feature. This vague and unclear term leaves the reader in doubt as to the meaning of the technical features to which it refers, thereby rendering the definition of the subject-matter of said claims unclear, Article 6 PCT.

Apart from the above objection it is also noted that the term heating device used in dependent claims 6-8 refers to reference sign 24 whereas the term heating device used in claim 5 on which claims 6-8 depend, refers to reference signs 24 and 26, 32, 90.

- 2.2 Claim 9 does not meet the requirements of Article 6 PCT in that the matter for which protection is sought is not clearly defined. The claim attempts to define the subject-matter in terms of the result to be achieved ("the heating device heats at least one of the current extraction sections"), which merely amounts to a statement of the underlying problem, without providing the technical features necessary for achieving this result.

3. Novelty Art. 33 (1) and (2) PCT

- 3.1 The above clarity objections notwithstanding the present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of independent claims 1 and 16 is not new in the sense of Article 33(2) PCT.

Document D1 discloses (the references in parentheses applying to this document):

A fuel cell assembly comprising: a fuel cell stack (110, Fig. 1) formed by laminating a plurality of cells; plus and minus current extraction sections - wherein each current extraction section comprises a current extraction plate (here bipolar plate, see page 13, lines 23-28, adjacent to the outer fuel cells in the stack) for extracting the generated current and an end plate (here: end plate 112 resp. 114, Fig 1 and page 1 line 37 to page 2, line 2 and page 15, line 36 to page 16, line 4) for uniformly binding the cells of the fuel cell stack, the current extraction sections extracting current generated by the fuel cell stack (110) and sandwiching the fuel cell stack with respect to the direction of lamination, and a passage (4a) allowing flow of a fluid provided in at least one of the current extraction sections resp. an enclosed cavity (4a) for confining fluid therein formed in at least one of the current extraction sections (here: the passage is coolant or a flow channel in the bipolar plates page 13, lines 20-28).

- 3.2 D1 also discloses the subject matter of independent claim 5 (see point 3.1 above and heating device as disclosed on page 5, lines 21-30) and

Dependent claims 3, 6-15, 17, 18 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT) (see the corresponding passages cited in the search report).